

**CLAIMS**

What is claimed is:

1. A panoramic display system, comprising:
  - a) a curved projection screen, having a center of curvature and a bottom;
  - 5        b) a panoramic projector, configured to project an image onto the projection screen from a projection point located substantially above the projection screen; and
  - c) a substantially conically shaped barrier, having a base disposed toward the bottom of the projection screen, and an apex region disposed toward the projection point, configured to block reflections from a region of the screen to at least one other
  - 10       region of the screen.
2. A device in accordance with claim 1, further comprising an anti-reflective treatment disposed on the conically shaped barrier.
- 15       3. A device in accordance with claim 2, wherein the anti-reflective treatment is selected from the group consisting of anti-reflective coatings, baffles, and optical felt.
4. A device in accordance with claim 1, wherein the base of the barrier is coterminous with the bottom of the screen.
- 20       5. A device in accordance with claim 1, wherein the panoramic screen includes a vertical axis of curvature that is parallel to a vertical axis of the conically shaped barrier.
6. A device in accordance with claim 5, wherein the vertical axis of the conically
- 25       shaped barrier is collinear with the vertical axis of the screen.
7. A device in accordance with claim 1, wherein the projector comprises multiple projectors disposed near the projection point, configured to project a composite image upon the screen.
- 30       8. A device in accordance with claim 1, wherein the projector comprises:
  - a) a linear array projector, configured to project a vertical line of pixels at a refresh rate; and

b) a rotating scanning mirror, disposed substantially at the projection point, configured to rotate about a vertical axis at one half the refresh rate of the linear array projector, and to reflect the vertical line of pixels onto the screen.

5           9. A device in accordance with claim 8, wherein the projector further comprises a folding mirror, disposed between the linear array projector and the scanning mirror, configured to reflect the vertical line of pixels onto the scanning mirror.

10           10. A device in accordance with claim 8, wherein the panoramic screen includes a vertical axis of curvature that is parallel to a vertical axis of the conically shaped barrier and parallel to the vertical axis of the scanning mirror.

15           11. A device in accordance with claim 1, wherein the screen is a rear-projection screen

12. A device in accordance with claim 11, further comprising a curved mirror, configured to reflect a panoramic image from the screen to an offset viewing point.

20           13. A device in accordance with claim 1, wherein the screen is doubly curved.

14. A device in accordance with claim 1, wherein the projector comprises:  
a) a linear array projector, configured to project a vertical line of pixels at a refresh rate; and  
b) a rotating scanning mirror, disposed substantially at the projection point,  
25 configured to rotate about a vertical axis at one half the refresh rate of the linear array projector, and to reflect the vertical line of pixels onto the screen.

15. A device in accordance with claim 1, wherein the curved projection screen defines an arc of greater than 180° and less than 360°, and further comprising a baffle,  
30 extending between a rearward edge of the screen and the reflection barrier, configured to block reflections between rearward portions of the screen.

16. A reflection barrier for a panoramic projection system, the system including a curved projection screen, having a center of curvature and a bottom, and a panoramic

projector, configured to project an image onto the projection screen from a projection point located substantially above the projection screen, the barrier comprising:

- 5           a) a substantially conically shaped barrier, having a base disposed toward the bottom of the projection screen, and an apex region disposed toward the projection point, configured to block reflections from a region of the screen to at least one other region of the screen.

10           17. A device in accordance with claim 16, further comprising an anti-reflective treatment disposed on the conically shaped barrier.

          18. A device in accordance with claim 17, wherein the anti-reflective treatment is selected from the group consisting of anti-reflective coatings, baffles, and optical felt.

15           19. A device in accordance with claim 16, wherein the projector comprises multiple projectors disposed near the projection point, configured to project a composite image upon the screen.

          20. A device in accordance with claim 16, wherein the base of the barrier is coterminous with the bottom of the screen.

20           21. A device in accordance with claim 16, wherein the panoramic screen includes a vertical axis of curvature that is parallel to a vertical axis of the conically shaped barrier.

25           22. A device in accordance with claim 21, wherein the vertical axis of the conically shaped barrier is collinear with the vertical axis of the screen.

          23. A device in accordance with claim 16, wherein the curved projection screen defines an arc of greater than  $180^\circ$  and less than  $360^\circ$ , and further comprising a baffle, extending between a rearward edge of the screen and the reflection barrier, configured to  
30   block reflections between rearward portions of the screen.

          24. A panoramic display system, comprising:

- a) a curved projection screen, having a bottom and a center of curvature;  
          b) a projection point, located substantially above the projection screen;

c) a panoramic projector, configured to project an image onto the projection screen, the projector including:

i) a linear array projector configured to project a vertical line of pixels at a refresh rate; and

5 ii) a rotating scanning mirror, disposed substantially at the projection point, configured to rotate about a vertical axis at one half the refresh rate of the linear array projector, and to reflect the vertical line of pixels onto the screen; and

10 d) a substantially conically shaped barrier, having a base disposed toward the bottom of the projection screen, an apex region disposed toward the projection point, and a vertical axis that is substantially collinear with the center of curvature of the screen, the barrier being configured to substantially block reflections from a region of the screen to at least one other region of the screen.